

Please replace paragraph 14 with the following:

<sup>A6</sup> [0014] Fig. 5 shows photographs of a wide range of bolts after salt spray test according to Examples 1 and 4, and Comparative Example 8.

Please add on page 5, line 16:

<sup>A7</sup> Fig. 6 shows an embodiment of the present invention, including a bolt structure (1), a magnesium alloy member or heterogeneous material member (4), a nut (5), a cationic electrodeposition coating (9), a powder coating (10), aluminum washer (2), a magnesium alloy member (3), an alumite-treated layer (8), zinc-nickel plating layer (6) and the cosmer treatment layer (7).

IN THE TITLE:

Please replace the current title with the following:

~~Bolt Structure For Use With a Magnesium Alloy Member For Tightening Magnesium Alloy Members With Each Other Or With A Heterogeneous Material~~

IN THE ABSTRACT:

Please replace the abstract with the new abstract attached to this Response on a separate page.

REMARKS

Claims 1-6 are pending and Claims 1-6 have been objected to and rejected. In this amendment, Claims 1-6, the specification, the title, and the Abstract have been amended. No new matter has been added.

The drawings have been objected to under 37 CFR 1.83(a) as not illustrating every feature of the invention specified in the claims. Applicants have attached to this Response

a Proposed Figure 6 for the Examiner's consideration. It is submitted that Figure 6 illustrates all of the features of the claimed invention. In Fig. 6, a bolt 1 fixes a magnesium alloy member 3 and a magnesium alloy or heterogeneous material member 4 with a nut 5 through a washer 2. The bolt 1 is plated by zinc-nickel and then is treated with Cosmer chromating solution. Therefore, a zinc-nickel plating layer 6 and a Cosmer treatment layer 7 are provided on the surface of the bolt 1 in this order. The washer 2 is made of aluminum and is subjected to an alumite treatment, thereby providing an alumite-treated layer 8 on the surface of the aluminum washer 2. The magnesium alloy member 3 is electrodeposited by cationic electrodeposition and then is powder-coated on a surface faced to a head of the bolt 1. Therefore, an electrodeposition coating 9 and a powder coating 10 are provided on the surface in this order. It is requested that the objection be withdrawn.

The Examiner has also objected to the Specification of the Application. In particular, the Examiner has objected to the Title, the Abstract, and the Claims of the application because these portions of the application are directed towards a "bolt tightening structure." The Examiner has argued that the application mentions a bolt, but does not disclose a structure that is associated with the bolt that can tighten it. Therefore, the Examiner has requested a correction of these portions of the application. Applicants have replaced "bolt tightening structure" with "bolt structure" in the Title, Abstract, and Claims. It is requested that this objection be withdrawn in light of the amendments.

The Examiner has also objected to the descriptiveness of the Title. The present title is "Bolt Tightening Structure of Magnesium Alloy Member." Applicants have amended the title to read "Bolt Structure For Use With a Magnesium Alloy Member For Tightening Magnesium Alloy Members With Each Other Or With A Heterogeneous Material." This language is supported by the original application (i.e., Claim 1) and adequately describes the claimed invention. It is requested that this objection be withdrawn as well.

The Examiner has also objected to the disclosure of the Abstract. Applicants have attached a new Abstract for the Examiner's review. It is submitted that the new Abstract meets the guidelines set forth in the MPEP and it is requested that the objection be withdrawn.

The Examiner has objected to the layout of the application. Applicants have amended the specification to correct the informalities contained in the specification. It is requested that the objection be withdrawn in view of the attached amendments.

Additionally, the Examiner has objected to description of the drawings. In particular, the Examiner has objected to the description of the bolts as "test pieces." Applicants have amended the descriptions of the figures so that "test pieces" is replaced with "bolts." Therefore, it is requested that the objection be withdrawn in view of these amendments.

Claims 1-6 have been rejected under 35 U.S.C. 112, second paragraph, as indefinite because these claims are directed towards "a bolt tightening structure." The Examiner has noted that no such structure is claimed in the claims. Applicants have

amended the claims to recite "a bolt structure." It is submitted that this amendment has overcome any indefiniteness in the language of the pending claims. Additionally, other minor amendments have been made to Claims 1-6 in order to ease understanding of their meaning. It is requested that the rejection be withdrawn.

In the event this paper is not timely filed, applicants hereby petition for an appropriate extension of time. The fee for this extension may be charged to our Deposit Account No. 01-2300, along with any other additional fees which may be required with respect to this paper referencing Attorney Docket No. 108421-00030.

Respectfully submitted,



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Attachments: Figure 6

Marked Up Copy of the Claims  
Marked Up Copy of the Specification  
Abstract



**MARKED UP COPY OF CLAIMS**

1. (Amended) A bolt [tightening] structure [of] for use with a magnesium alloy member [for tightening magnesium alloy members with each other or a magnesium alloy member and a heterogeneous material by means of a bolt], wherein a cationic electrodeposition coating having a film thickness of 15  $\mu\text{m}$  or more is provided at least on the surface of said magnesium alloy member contacting with a bolt head, a powder coating having a film thickness of 40 to 150  $\mu\text{m}$  is provided on the surface of said cationic electrodeposition coating[, zinc-nickel plating and then cosmer treatment are carried on said bolts], and an alumite-treated aluminum washer is interposed between said bolt head and said magnesium alloy member, wherein a zinc-nickel plating and then cosmer treatment are carried out on said bolt.
2. (Amended) A bolt [tightening] structure [of] for use with a magnesium alloy member in accordance with claim 1, wherein the thickness of an alumite layer on said alumite-treated aluminum washer is 10  $\mu\text{m}$  or more.
3. (Amended) A bolt [tightening] structure [of] for use with a magnesium alloy member [for tightening magnesium alloy members with each other or a magnesium alloy member and a heterogeneous material by means of a bolt], wherein a cationic electrodeposition coating having a film thickness of 15  $\mu\text{m}$  or more is provided at least on the surface of said magnesium alloy member contacting with a bolt head, a powder coating having a film thickness of 40 to 150  $\mu\text{m}$  is provided on the surface of said cationic electrodeposition coating[, zinc-nickel plating and then cosmer treatment are carried out on said bolts], and an iron or aluminum alloy washer coated by a cationic electrodeposition coating having a

film thickness of 15  $\mu\text{m}$  or more is interposed between said bolt head and said magnesium alloy member, wherein zinc-nickel plating and then cosmer treatment are carried out on said bolt.

4. (Amended) A bolt [tightening] structure [of] for use with a magnesium alloy member in accordance with claim 1, wherein chromate treatment is carried out on said bolt after said zinc-nickel plating and before said cosmer treatment, and any one of chromate treatment, chrome phosphate treatment, and manganese phosphate treatment is carried out on said magnesium alloy member before providing said cationic electrodeposition coating.

5. (Amended) A bolt [tightening] structure [of] for use with a magnesium alloy member in accordance with claim 2, wherein chromate treatment is carried out on said bolt after said zinc-nickel plating and before said cosmer treatment, and any one of chromate treatment, chrome phosphate treatment, and manganese phosphate treatment is carried out on said magnesium alloy member before providing said cationic electrodeposition coating.

6. (Amended) A bolt [tightening] structure [of] for use with a magnesium alloy member in accordance with claim 3, wherein chromate treatment is carried out on said bolt after said zinc-nickel plating and before said cosmer treatment, and any one of chromate treatment, chrome phosphate treatment, and manganese phosphate treatment is carried out on said magnesium alloy member before providing said cationic electrodeposition coating.

## ABSTRACT

The present invention provides for a bolt structure for use with a magnesium alloy member that can insulate between magnesium alloy members and steel or other bolts without lowering the bolt shaft power, and prevent occurrence of electrolytic corrosion with an electrolyte such as water. A cationic electrodeposition coating is also provided for the bolts structure, said coating having a film thickness of 15  $\mu\text{m}$  or more is provided at least on the surface of the magnesium alloy member contacting with a bolt head, a powder coating having a film thickness of 40 to 150  $\mu\text{m}$  is provided on the surface of the cationic electrodeposition coating, zinc-nickel plating and then cosmer treatment are carried out on the bolt, and an alumite-treated aluminum washer is interposed between the bolt head and the magnesium alloy member.

**MARKED UP COPY OF THE SPECIFICATION**

Page 2, line 18: BRIEF SUMMARY OF THE INVENTION

Page 5, line 5: BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS



Fig. 6

OK  
6/150/03  
MHS

